# The Use of Windows Phone Mobile-based Marketing

Fidia Annisa Putri, Aries Susanto HT, Zainul Arham
Department of Information Systems
Faculty of Science and Technology
Universitas Islam Negeri Syarif Hidayatullah Jakarta, Indonesia
fidianisa@ymail.com, ariessht@uinjkt.ac.id, zainul.arham@uinjkt.ac.id

Abstract- These A marketing application can provide a solution for merchants to promote their products. In the business world, often merchants as a business entity to engage in the sale of goods and / or services have difficulty in getting and keeping customers. For that the company will present a mobile marketing app that uses LBS (Location Based Service) technology. But in its development, a company increasingly difficult to obtain and retain customers who want to use the services of the application that can be caused by the lack of a side view of the merchant branding. Therefore, mobile applications need to be made new marketing innovations result from the previous system based on Windows Phone to answer the needs of merchants and businessrelated potentials. The system developed will consist of native applications installed on Windows Phone that can be easily accessible to the general public and dashboard applications that will serve as the management of the data content displayed on native applications. This application has a customer loyalty program in the form of m-coupon as a form of reward point for loyal customers.

# I. INTRODUCTION

The purpose of the use of information technology and electronic transaction, namely educating the nation as part of a world information society, develop trade and the national economy in order to improve the welfare of the community, improving the effectiveness and efficiency of public services, open up greater opportunities for everyone to advance thinking and ability in the field of the use and utilization of information technology optimally and responsibly, and gives a sense of security, justice, and legal certainty for users and providers of information technology.

Internet is becoming one of the technologies that have been used daily by humans in search of information. In addition to television, the Internet has become the primary source of information, newspapers beat. Television has long been a major source of media to get the information, but in recent years, the Internet continues to rise significantly into the media community resources are utilized (Redwing Asia, 2012).

Technological developments, especially the Internet, which is happening today has opened up new opportunities for the company to conduct its business activities. One of them in the field of marketing. Marketing is a social and managerial process by which individuals or groups obtain what they need and want through creating and exchanging products and value (Kotler, 2008). The development of technology has given to the world's transformation into e-marketing marketing

(internet marketing). Technologies such as e-marketing evolves with the Internet. Internet marketing is achieving marketing objectives through the use of digital technologies (Chaffey et al., 2009).

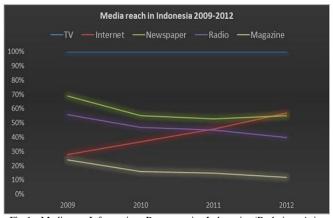


Fig.1. Media as Information Resource in Indonesia (Redwing Asia, 2012)

According to the Indonesian Investment (2013), eMarketer (2012), and Michael Yan (2012), 24 percent of the 247 million Indonesian population are Internet users and 62 percent of Internet users are accessing the Internet through mobile devices. The phone and the smartphone is not just convenience or indulgence but actually it's a big part of a day-to-day necessity. (Tamboto, 2013).

Currently there are several smartphone technology base that has been popular among the people. In between Android, Blackberry, Windows Phone, iOS, Symbian. Windows Phone is a mobile phone operating system based collaboration between Nokia and Microsoft in the last few years. In the early years of Windows Phone used in society, the growing amount of apps in the Windows Phone Marketplace continues to increase. All About Windows Phone make a comparison chart on the required time period of 5 players to get the app store application number 50,000. Windows Phone was able to be in position to two after iOS and is one level above the Android platform for its ability to collect 50,000 applications incorporated in its platform.

The development of mobile technology is very rapid as it has been described previously and is accompanied by an increase in the number its use enables a new approach to emarketing, namely m-marketing (mobile marketing). Today's consumers are surfing more, shopping more, socializing more and just doing more on their mobile devices. Faster network

speeds, feature-rich smartphones and tablets, an ever growing menu of applications, more engaging ad formats are all helping to engage consumers via mobile. As a result, mobile marketing and advertising is increasing at a faster rate than other marketing types. Since it happened, it's possible that mobile marketing can replace internet marketing in the future. It's time that marketers truly embrace mobile not as a channel, but as a platform. They must understand how to integrate mobile throughout other marketing channels in order to truly engage customers in relevant, personal ways (American Marketing Association, 2012).

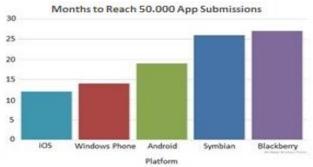


Fig.2. Mobile Application Development (All About Windows Phone, 2011)

Conventional promotional media used to attract the attention of potential merchant customers have not been effective. Merchants typically use banners, flyers, or advertisements in print media to attract the attention of potential customers. Marketing the product through digital media such as television also requires considerable cost. Some merchants would not be able to advertise their products on television media are constantly decline. Though each merchant requires media campaign to market its products widely to attract as many potential customers. Merchant requires promotion of media that can be accessed anytime, anywhere, and by anyone. Not just in getting consumers, merchants also have difficulty in retaining customers. This causes the actual consumer has visited a merchant does not get something that gives more value (value added) for him as a loyal customer so it can easily switch to another merchant. Apart from the quality of products sold, the merchant must also have certain marketing techniques to attract customers to come back again and buy the product again and again. Merchant requires not only a media campaign to attract potential customers to come and buy a product but also a form of promotion that can retain its existing customers.

This application can provide information to the user about the location of merchants who are providing attractive offers or promotions that are close to the user. This application uses Location Based Service (LBS). It takes education to the merchant who takes a long time because the business has not been properly educated about the benefits of the product on location-based Technology. And in terms of technological developments that advance the location context can be worked into an application itself, but now the context of the location is just a small part of a larger context. Such as Instagram;

Instagram has a content location, and Twitter; Twitter also has a content location.

Judging from the problems and literature that have been outlined above, the writer wants to build a new mobile marketing applications with innovations from the previous system. Because this is the time for merchants to start marketing its products to consumers through mobile devices. Mobile devices can connect online world and the real world. As we now know how the widespread use of social networking in Indonesia, such as Facebook, Twitter, Path, Instagram, Foursquare, and so forth. So many potential customers can be found in social media. This is a wide open market for the merchant to expand the scope of marketing their products. M-marketing can meet the challenges of this business. With the increasing trend of more consumers are looking for a platform with high mobility, the traditional promotional methods will be increasingly difficult to reach the consumer desires.

M-marketing applications that are developed will be applied to the Windows Phone operating system which can be a media campaign for a merchant to introduce products to the interactive community in an effort to get consumers. On the other hand, this application also can provide special service to loyal customers to retain customers.

#### II. LITERATURE REVIEW

#### A. Related Works

Several previous studies have also discussed the development of marketing applications, including the study entitled "Design of E-Marketing at PT. Rajawali Nusindo "(Wibowo, 2011). The purpose of this system is a media campaign for the company. This system other than as a promotional media can also process ordering goods, ordering transaction processing, and display the status of the goods, as well as providing reports the purchase of a product level. However, there are still shortcomings in the system, especially in terms of marketing, which is a form of promotion that is carried out is limited to display only items available. There is no specific approach to attract potential buyers to purchase the product supplied. Limited mobility and lack of customer personalization. Other research on the application of marketing research titled "E-marketing Strategy Planning at PT. Nur Islamic SOSTAC® Travel by Using Method "(Praditya, Eliza, and Septianingrum 2013). This research method uses SOSTAC® in building e-marketing strategy. Applications were made aiming to facilitate the customers in getting the information of the products offered and the application is already connected to social networks like Facebook and Twitter. However, the low mobility of the application and marketing only display products, no specific approach to retaining customers. Other research titled "Design of Mobile Marketing (M-Marketing) Islamic Banking Products at PT. Bank Jabar Banten Syariah Branch Office Depok "(Hidayanti, 2014). The system is already available in mobile applications. The purpose of this system is as a promotional media products that can provide services as well as provide a forum to ask product data monitoring. However,

there are still shortcomings in the system, especially in terms of marketing, which is a form of promotion that is carried out is limited to display only items available. There is no specific approach to attract potential buyers to purchase the product provided and the lack of customer personalization.

#### B. The Development of Windows Phone

Mobile marketing, according to the Mobile Marketing Association is a set of practices that enable organizations to communicate and engage with their audience in an interactive and relevant manner through any mobile device or network (Becker and Arnold, 2010). The year 2010 may be a separate milestone for Microsoft and mobile platforms. In the computer industry, Microsoft is the thing that is done reboot strategy. Microsoft refers to Windows Phone as a revolutionary new platform. Microsoft made entirely from scratch and with a user interface that is clean and fresh. With a design philosophy called Metro, is inspired by the signs (sign) located on the metro subway, Windows Phone interface shows clear characteristics, information that is easily obtained, intuitive and uses symbols are easy to understand. Windows Phone integration with a wide range of services in the cloud that had been owned by Microsoft, namely Bing, Xbox Live, Push Notification, Office and third party services has unique strengths, something that Microsoft should have started a long time ago (Pramoedya, 2011).

#### III. ANALYSIS AND RESULTS

Based on the analysis of a running system that has been described above, the purpose of this research is to develop a mobile marketing applications are implemented on Windows Phone smartphone. This system is the development of applications that have been there before as a form of improvement and innovation of the previous system. This development is also done in answering the existing development in terms of both business and technology aspects that continue to evolve with the times. This proposed system is expected to make mobile marketing more accepted in the business world to help market the product to the consumer and the consumer binding. The system is also expected to facilitate community, especially the End User Windows Phone smartphones in finding places that are providing attractive offers and also provide benefits if they become loyal customers.

In making this application, the authors use the method of system development Application Rapid Development using the Unified Modeling Language development tools with StarUML 5.0.2.1570 as design tools. For the programming language used in float applications natively on Windows Phone, the authors use the programming language C # and XAML. While the tools used for the development of native applications is the Microsoft Visual Studio Express 2012 for Windows Phone, and Windows Phone SDK 8.0, and Balsamiq Mockups for Desktop 2.2.21 to design a mock-up user interface applications. For a dashboard application development as a means for data management and monitoring for Merchant developed with PHP (Hypertext Preprocessor)

tools development with Adobe Dreamweaver CS6, XAMPP, and MySOL.

This system provides an alternative to solving the problem, including:

- The system can highlight the branding of the Merchant that can improve the brand image of the Merchant by the way, such as the application name with the name itself Merchant, Merchant logo displays on the splash screen applications and pages on native applications.
- The system provides features that can accommodate the needs of merchants to promote him to convey all the necessary information about the Merchant by End User, such as:
  - a. Displays a list of the products that can be owned and continue to be updated,
  - b. Merchant displays photographs are also taken from Merchant Instagram account,
  - c. Display attractive offers which are owned Merchant,
  - d. Displays basic information about the Merchant such as phone, email, address, etc.
- 3. System brings customer loyalty program in the form of mcoupon that can be held by each End User Application End User as an indicator of loyalty to a Merchant.
- 4. Merchants can customize according to his application to the Account Manager at the stage of making the application. So later completed applications can reflect the characteristics of the Merchant itself.
- 5. This application while maintaining the advantages of the previous system of End User Location Based Services and integration with social networking.

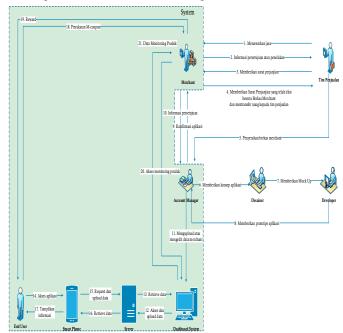


Fig.3. Proposed System

We make a Merchant system that can provide input to the desired mobile marketing applications. First of all app sales team offers services to Merchant. Then after listening to the explanation of the sales team, the Merchant may determine to

agree or not to use the services agreed to create a mobile marketing application for him. If the Merchant agrees the sales team provide a letter of agreement and asking the Merchant attach files that contain data about the Merchant and the Merchant asks to transfer a sum of money agreed upon as payment of the cost of services offered. Furthermore Merchant sign and attach files and transfer some money to the sales team. Once this is completed then the next stage can begin the process of making an application.

Starting from the sales team to bestow files Merchant Account Manager. After the delegate sales team to file a Merchant Account Manager, the Account Manager for the next one who is responsible in making the Merchant application. Furthermore Account Manager providing applications to designers based on the concept of files received from Merchant sales team. Furthermore, designers create a design mock up and gave it to the developer. Then developers create applications based on the given mock up designer.

After making a prototype application developer is completed, a prototype application will be presented to the Account Manager for further pointed to the Merchant. In this process the Merchant may provide input related to the application, if want some changes then Merchant Account Manager will communicate to designers and developers back to renew its application. This phase continues until the Merchant are satisfied with the application made.

Once the application has been created will be published by placing it on the Windows Phone Market Place so it can be downloaded by the End User. Furthermore, if there is a change related data or want to enter new data from the Merchant, the Account Manager who had to input this data into the server. Once the application is available on the Windows Phone

Once the application is available on the Windows Phone Market Place, the End Users may download and use this application. End Users can access various features provided in this application, to register first. After register, then the End User can use all the features provided in this application. One is the End User will have m-m-coupon coupon which is a customer loyalty program to this application which can show how much customer loyalty on the Merchant and may be redeemed for a variety of benefits that have been provided by the Merchant.

On the other hand, the system also recognizes the need for a Merchant who want to know the statistics of mobile marketing End Usage of this application. For it on the dashboard there is a feature that can display data specialization products shown on the graph that can be easily accessed and read by the Merchant.

# IV. CONCLUSION

After doing the analysis and design based on the Mobile Marketing Windows Phone, it can be concluded that the design of mobile marketing that runs on Windows Phone smartphone can be used by merchants as a media campaign to get customers by providing special offers information owned merchant interactively and display various information related merchants required by the customer. Not only can that but the

system also assist merchants in retaining customers by providing value added to loyal customers.

With this system is expected to become a mobile marketing products that can be accepted by merchants in Indonesia in order to promote local businesses in particular and Indonesia in general economy by providing merchants with a system that serves as an effective marketing tool. The system will provide information that has been processed from the data submitted by end users (end user) while using this application on the smartphone Windows Phone so merchants get information directly from its customers to determine the next marketing strategy.

## V. LIMITATIONS

Some limitations are basically identified in this study. First, this study only used a design and making of Windows Phonebased application, though it might be suitable as well in other mobile platforms. Therefore, the setting of this study could not be concluded to explain all uses of mobile application.

Second, this study was limited in assessing the usage of mobile services focusing on which factors described merchant-based services in Indonesia only that might not accurately reveal every viewpoint of the mobile services development process, particularly in developing countries.

Consequently, these limitations were considered necessarily for developing a better design and in the future study. However, additional studies are required to further observe and to extend the existing study, with more applicable method and analysis in order to provide better implementation.

Nevertheless, with the anticipated convergence of services across mobile application uses, it may hopefully become a significant insight for other mobile services. This study expectedly contributes especially to the Information Systems (IS) field.

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#### REFERENCES

- [1] P. Ballard, Ajax Starter Kit. Indianapolis: Sams Publishing, 2007.
- [2] M. Becker and J. Arnold, Mobile Marketing for Dummies, 1<sup>st</sup> ed., Indianapolis: Wiley, 2010.
- [3] D. Chaffey, E-business and E-commerce Management: Strategy, Implementation, and Practice, 5th ed., London: Pearson, 2011.
- [4] B. Hartanto B, Visual C#.Net Secara Mudah. Yogyakarta: Andi, 2008.
- [5] A. Kadir, Dasar Pemrograman Web Dinamis Menggunakan PHP. Yogyakarta: Andi, 2005.
- [6] A. Kadir, Mudah Mempelajari Database MySQL. Yogyakarta: Andi, 2010
- [7] J.A. Kendall and E.J. Kendall, Systems Analysis and Design, 7th., ed., New Jersey: Pearson Prentice Hall, 2008.
- [8] P. Kotler and G. Armstrong, *Dasar-dasar Pemasaran*, 9th ed., Translated by MarkPlus. Jakarta: Indeks, 2003.
- [9] P. Kotler and K.L. Keller, Manajemen Pemasaran, 13<sup>th</sup> ed., vol. 1. Translated by Bob Sabran, Jakarta: Erlangga, 2009.

- [10] A. Kumar, Design and Development of Embedded Web Server. Belgaum: LAP LAMBERT Academic Publishing, 2013.
- [11] A. Ladjamudin, Analisis dan Desain Sistem Informasi. Yogyakarta: Graha Ilmu, 2005.
- [12] L.A. MacVittie, XAML in a Nutshell, 1st De., Sebastopol: O'Reilly Media, Inc., 2006.
- [14] A. Mulyanto, Sistem Informasi Konsep dan Aplikasi. Yogyakarta: Pustaka Pelajar, 2009.
- [15] 2012. Redwing Asia, Indonesia's US\$10 Billion Media Market, Available Online: http://redwing-asia.com/market-data/market-data-media/
- [17] P. Pramudya, Membuat Aplikasi untuk Windows Phone, Yogyakarta: Andi, 2011.
- [18] R.S. Pressman, Rekayasa Perangkat Lunak Pendekatan Praktisi (Book One). Yogyakarta: Andi, 2002.
- [19] M. Soekarno, Membangun Website Dinamis Interaktif dengan PHP MySQL. Eksa Media Press, 2006.
- [20] S. Rizky, Konsep Dasar Rekayasa Perangkat Lunak (Software Reengineering). Prestasi Pustaka Publisher, 2011.
- [21] J. Strauss and R. Frost, *E-marketing*, 6<sup>th</sup> ed., New Jersey: Pearson, 2012.
- [22] Y. Sugiarti, Analisis dan Perancangan UML (Unified Modelling Language) Generated vb 6. Yogyakarta: Graha Ilmu, 2013.
- [23] L. Ullman, Effortless E-Commerce Alt PHP and MySQL. Berkeley, CA: Pearson Education, 2011.
- [24] J.L Whitten, L.D. Bentley, and K.C. Dittman, Systems Analysis and Design Methods Sixth Edition. Translated by: Tim Penerjemah Andi. Yogyakarta: Andi, 2004.
- [25] J. Gunawan, Y. Hannah, W. Brordus, and Siswono, Pembangunan Website E-marketing dengan Metode SOSTAC® pada PT. Saka Inti Selaras. Jakarta: Universitas Bina Nusantara, 2013.
- [26] R. Hidayanti, Rancang Bangun Mobile Marketing (M-Marketing) Produk Perbankan Syariah pada PT. Bank Jabar Banten Syariah Kantor Cabang Pembantu Depok. Jakarta: UIN Syarif Hidayatullah Jakarta, 2014
- [27] M. Kalali and B. Mehta. Developing RESTful Services with JAX-RS 2.0, WebSockets, and JSON. Birmingham: Packt Publishing, 2013
- [28] C. Krum. Mobile Marketing Finding Your Customer No Matter Where Ever They Are. Indianapolis: Pearson, 2010.
- [29] MADCOMS, Panduan Lengkap Adobe Dreamweaver CS4. Yogyakarta: Andi. 2009.
- [30] M. Nazir, Metode Penelitian. Bogor: Ghalia Indonesia, 2009.
- [31] K. Peranginangin, Aplikasi Web dengan PHP dan MySQL. Yogyakarta: Andi, 2006.
- [32] J. Praditya, Eliza, and E. Septianingrum, Perencanaan Strategi E-Marketing Pada PT. Nur Islami Travel dengan menggunakan metode SOSTAC®. Jakarta: Universitas Bina Nusantara, 2013.
- [33] A. Wibowo, Aplikasi Gratis untuk Pengembang Situs Web. Yogyakarta: Andi, 2007.
- [34] R. Willard, HTML: A Beginner's Guide, 4th Edition. McGraw-Hill, 2009.
- [35] R. Wintana, Pengembangan Sistem Informasi Pemasaran pada International Sports Club Indonesia. Jakarta: UIN Syarif Hidayatullah Jakarta. 2011.
- [35] N. Yasmin, Rancang Bangun Sistem Informasi Pemasaran Berbasis Web pada BMT (Baitul Maal Wattamwil) Cita Sejahtera. Jakarta: UIN Syarif Hidayatullah Jakarta, 2011.
- [36] 1991. Json. Introducing JSON. Available Online: http://json.org/.
- [37] 2011. Gopego. Windows Phone Marketplace Kini Naungi 50 Ribu Aplikasi. Available Online: http://gadget.gopego.com/2011/12/windows-phone-marketplace-kini-naungi-50-ribu-aplikasi.
- [38] 2012. Mobile Marketing Association, Content. Commerce. Context: The Year of The Mobile Roadmap: 12 Trends for 2012. Available Online: www.marketingpower.com
- [39] 2012. Redwing Asia, Indonesia's US\$10 Billion Media Market, Available Online: http://redwing-asia.com/market-data/market-data-media/
- [40] 2013. Mugi. Mengenal Extensible Markup Language (XAML). Available Online: http://mugi.or.id/blogs/wakhidnusa/archive/2013/01/11/mengenal-extensible-application-markup-language-xaml.aspx.

- [41] 2013. Techinasia. Laporan: mayoritas masyarakat Indonesia akses internet lewat perangkat mobile (slideshow). Available Online: http://id.techinasia.com/laporan-mayoritas-masyarakat-indonesia-aksesinternet-lewat-perangkat-mobile-slideshow/.
- 42] 2014. Okezone. Ini Catatan Pertumbuhan Windows Phone di 2013. Available Online: http://techno.okezone.com/read/2014/01/27/325/932026/ini-catatan-pertumbuhan-windows-phone-di-2013.
- [43] 2014. Teknoup. Kantar: Windows Phone adalah OS dengan Pertumbuhan Tercepat di Dunia. Available Online: http://www.teknoup.com/news/28695/kantar-windows-phone-adalah-os-dengan-pertumbuhan-tercepat-di-dunia/.